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(71) Applicant (for all designated States except US): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): AKKERMANS, Antonius [NL/DE]; c/o Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE). KAMPERMAN, Franciscus [NL/DE]; c/o Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE). STARING, Antonius [NL/DE]; c/o Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE). VAN DIJK, Marten

[NL/DE]; c/o Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE). TUYLS, Pim [BE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).

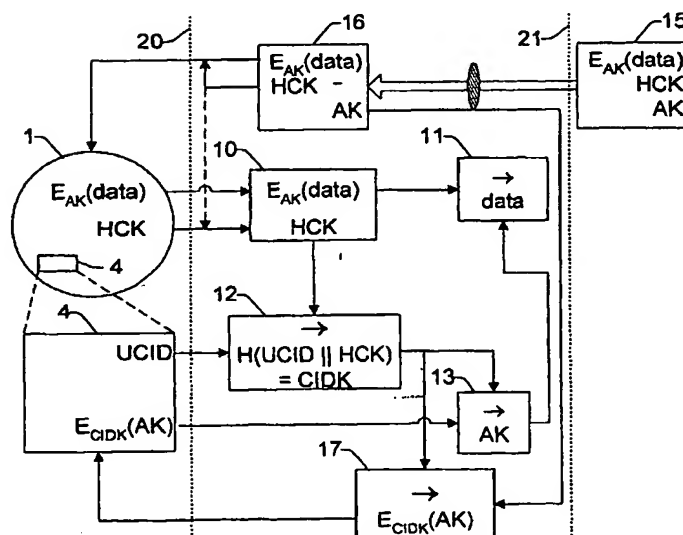
(74) Agent: VOLMER, Georg; Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).

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[Continued on next page]

(54) Title: RECORD CARRIER WITH DISTRIBUTED DECRYPTION INFORMATION



(57) Abstract: The invention relates to a system for improved copy protection comprising a record carrier like a CD-RW+ or a DVD storing copy-protected information and a device for reading from and/or writing to the record carrier. For that the record carrier (1) has a first area (3) storing information (data), which is at least partly stored in encrypted form (EAK(data)), this part being called an asset (EAK(data)), and which includes a first part of decryption information (HCK, EDNK(HCK)), and the record carrier (1) further has a second area (4) storing a second part of decryption information (UCID), wherein both the first (HCK) and second (UCID) parts of decryption information serve in decrypting an asset (EAK(data)). Such distribution of decryption information over at least two areas of the record carrier may further be combined with additional safety mechanisms as e.g. hidden channels, encrypted keys, counter mechanisms, and revocation lists.

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Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 005 940 A (KULINETS JOSEPH M) 21 December 1999 (1999-12-21) the whole document ---	1-14
X	EP 0 802 535 A (MATSUSHITA ELECTRIC IND CO LTD) 22 October 1997 (1997-10-22) abstract page 5, line 59 -page 7, line 10 page 10, line 53 -page 11, line 8 page 26, line 37 - line 40 claims 2-12 figures 1-3,11E ---	1,9, 12-14
A	US 6 357 005 B1 (DEVAUX FRANCOIS ET AL) 12 March 2002 (2002-03-12) the whole document ----- -/--	1-14



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Patent family members are listed in annex.

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-3016

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Sucher, R

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 00 58907 A (RUETSCH MARIO; OMD PRODUCTIONS AG (CH)) 5 October 2000 (2000-10-05) abstract page 12, line 36 -page 14, line 25 figures 11,12 ---	1,9, 12-14
A	WO 02 17316 A (KONINKL PHILIPS ELECTRONICS NV) 28 February 2002 (2002-02-28) abstract page 5, line 25 -page 7, line 31 ---	1,9, 12-14
A	WO 99 38162 A (NDS LTD; ATLOW SHABTAI (IL); BAR ON GERSHON (IL)) 29 July 1999 (1999-07-29) the whole document ---	1,9, 12-14
A	EP 0 809 245 A (TEXAS INSTRUMENTS INC) 26 November 1997 (1997-11-26) abstract column 2, line 21 -column 4, line 16 ---	1,9, 12-14
A	EP 0 849 734 A (TEXAS INSTRUMENTS INC) 24 June 1998 (1998-06-24) abstract column 3, line 16 - line 58 column 4, line 47 -column 5, line 41 ---	1,9, 12-14
A	US 6 044 046 A (DIEZMANN NILS ET AL) 28 March 2000 (2000-03-28) cited in the application abstract column 1, line 33 - line 49 column 7, line 53 - line 65 claims 1,6,7,15,23,24 -----	1,9, 12-14

INTERNATIONAL SEARCH REPORT

PCT/IB 02504

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6005940	A	21-12-1999	NONE
EP 0802535	A	22-10-1997	EP 0802535 A1 22-10-1997 US 6289102 B1 11-09-2001 WO 9714147 A1 17-04-1997
US 6357005	B1	12-03-2002	FR 2751767 A1 30-01-1998 AT 193384 T 15-06-2000 DE 69702135 D1 29-06-2000 DE 69702135 T2 09-11-2000 DK 912920 T3 30-10-2000 EP 0912920 A1 06-05-1999 ES 2147016 T3 16-08-2000 WO 9804966 A1 05-02-1998 GR 3034219 T3 29-12-2000 JP 2001502102 T 13-02-2001
WO 0058907	A	05-10-2000	EP 1043684 A1 11-10-2000 AU 3185800 A 16-10-2000 EP 1166226 A1 02-01-2002 WO 0058907 A1 05-10-2000 JP 2002540547 T 26-11-2002 US 6542444 B1 01-04-2003
WO 0217316	A	28-02-2002	AU 9549601 A 04-03-2002 CN 1447970 T 08-10-2003 WO 0217316 A1 28-02-2002 EP 1314157 A1 28-05-2003 US 2002024905 A1 28-02-2002
WO 9938162	A	29-07-1999	AU 1781099 A 09-08-1999 GB 2338586 A , B 22-12-1999 WO 9938162 A1 29-07-1999
EP 0809245	A	26-11-1997	DE 69711755 D1 16-05-2002 DE 69711755 T2 14-11-2002 EP 0809245 A2 26-11-1997 JP 10075198 A 17-03-1998 US 5905798 A 18-05-1999
EP 0849734	A	24-06-1998	DE 69720938 D1 22-05-2003 EP 0849734 A2 24-06-1998 JP 10228727 A 25-08-1998 US 6198875 B1 06-03-2001
US 6044046	A	28-03-2000	DE 19616819 A1 30-10-1997 AT 216120 T 15-04-2002 AU 2767497 A 19-11-1997 DE 59706971 D1 16-05-2002 DK 895637 T3 01-07-2002 WO 9741562 A1 06-11-1997 EP 0895637 A1 10-02-1999 ES 2175403 T3 16-11-2002 JP 2000509541 T 25-07-2000 PT 895637 T 30-09-2002